

## REMARKS

**I. Petition for Extension of Time**

Applicants herewith petition the Commissioner for Patents to extend the time for response to the Office action mailed April 10, 2006 for one (1) month from July 10, 2006 to August 10, 2006. Authorization is given to charge the extension of time fee of \$120.00 (37 C.F.R. §1.136 and §1.17) to Deposit Account No. 23-1703. Any deficiency or overpayment should be charged or credited to the above numbered deposit account.

**II. Claim Amendments**

Claim 9 has been amended to eliminate the functional language "for use" and more clearly define the invention as the film coating on the surface of a pharmaceutical dosage form.

Claim 26 has been canceled. The embodiment of that claim has been incorporated into each of claims 5 and 6. Support is provided by original claims 5 and 6.

Claims 1-4, 7, 8 and 23 have been amended to recite the transition expression "consisting essentially of". In general, the expression is understood to mean the exclusion of other elements of any significance to the combination. Specifically, in *In re Garnero*, 162 USPQ 221, 223 (1969), the CCPA ruled that the phrase "consisting essentially" excludes "...additional unspecified ingredients which would affect the basic and novel characteristics of the product defined in the balance of the claim."

The claimed invention provides a solution to the problem associated with aqueous film coatings designed specifically for pharmaceutical dosage forms. One such problem is the sticking together of coated drug particles while still wet after the coating process. However, it is known in the pharmaceutical industry that the addition of anti-sticking agents, e.g., detackifiers, glidants and lubricants, can often result in processing difficulties in working with the film coating (p. 2, lines 27-30). Commonly used anti-sticking agents include glyceryl monostearate (GMS), talc and silica which frequently must first be dispersed with other materials to obtain a more homogeneous system (p. 3, lines 1-3).

As evidenced by the examples and comparative data, the claimed copolymer and dispersion provide a film coating that advantageously, when applied to pharmaceutical dosage forms, does not stick during processing without the addition of antisticking agents and other

additives. Moreover, the monomers and/or copolymer of the claimed invention is not reacted with a crosslinking agent or crosslinked, thus eliminating the prior art problems associated with the possible presence of residual crosslinking agents in the film coating the pharmaceutical dosage form (p. 5, lines 21-24).

These basic and novel characteristics of the claimed copolymer and dispersion, i.e., improved anti-sticking properties and express teaching against the use of crosslinking agents, would be affected by the addition of other unspecified ingredients. As such, Applicants submit that the use of the transition "consisting essentially of" to define the invention of claims 1-4, 7, 8 and 23 is proper.

### **III. Claim Objections**

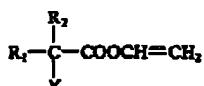
Claims 5 and 6 are objected to under 37 C.F.R. §1.75(c) as being of improper dependent form failing to further limit the subject matter of a previous claim. The recitation of claims 5 and 6 is identical to the recitation of claims 3 and 4, respectively. Claims 5 and 6 have been amended to recite the embodiment of claim 26, now cancelled. Amended claims 5 and 6 are not identical to claims 3 and 4. Withdrawal of the objection is requested.

### **IV. Claim Rejections – 35 U.S.C. §102**

Claims 1-9, 23, 24 and 31 are rejected under 35 U.S.C. §102(b) as being anticipated by US 4,056,497 to Reinecke et al. ("Reinecke").

Reinecke discloses crosslinkable and crosslinked acrylic ester copolymers prepared from the following mixture of monomers:

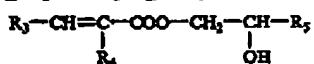
- a. 60 to 95% by weight, calculated on the monomer mixture, of at least one acrylic acid ester and/or methacrylic acid ester of a saturated aliphatic alcohol having from 1 to 20 carbon atoms,
- b. 0 to 40% by weight, calculated on the monomer mixture, of monomers the homopolymers of which have second order transition temperature of from -40°C to +150°C,
- c. 0.1 to 10% by weight, calculated on the monomer mixture, of an  $\alpha$ -haloalkane carboxylic acid vinyl ester of the formula (I)



wherein  $\text{R}_1$  and  $\text{R}_2$  each represents hydrogen or an alkyl radical having from 1 to 5 carbon atoms and  $\text{X}$  is fluorine, chlorine, bromine or iodine,

d. 0.1 to 10% by weight, calculated on the monomer mixture of,  $\alpha,\beta$ -ethylenically unsaturated carboxylic acids having from 3 to 8 carbon atoms or their partial ester with saturated aliphatic alcohols having from 1 to 20 carbon atoms and

e. 0 to 10% by weight, calculated on the monomer mixture, of monomers containing hydroxyl groups and having the formula (II)



wherein  $\text{R}_3$  is hydrogen, a methyl group or the group  $-\text{COOR}_6$ ,  $\text{R}_4$  and  $\text{R}_5$  each is hydrogen or a methyl group and  $\text{R}_6$  is hydrogen or an alkyl group having from 1 to 12 carbon atoms.

(col. 1, line 57, to col. 2, line 32)

An aqueous dispersion of the mixture is prepared by free radical polymerization using emulsifiers, protective colloids and, optionally, regulators (col. 3, lines 12-17). To achieve the desired degree of crosslinking and cohesion of copolymers, Reinecke requires that the mixture contain reactive monomers, e.g., hydroxyl, epoxy, halohydrine or activated halogen compounds (col. 1, lines 25-27). The aqueous dispersion is then crosslinked in the presence of alkalies (col. 3, lines 64-68). The crosslinked polymers may be used as pressure sensitive adhesives of high stability (Abstract).

a. claims 5 and 6:  
aqueous polymer dispersion

The rejection with respect to claims 5 and 6 is moot. Claims 5 and 6 were amended to recite the embodiment of claim 26 that was deemed to represent allowable subject matter. Accordingly, amended claims 5 and 6 are allowable for the reasons of record.

b. claims 1-4, 7, 8 and 31:  
copolymer/aqueous polymer dispersion

Claims 1, 2 and 31 are directed to a copolymer consisting essentially of the following monomers: acrylic acid or an ester thereof in the range 40 to 80 % by weight; methacrylic acid or an ester thereof in the range 20 to 60 % by weight; and a polymerizable surfactant in the range 0.01 to 9 % by weight. The percentages refer to the percentage amount by weight of each monomer in the sum of the monomer weights. As defined by the specification, a polymerizable surfactant is an alkenyl monomer that is capable of polymerizing and is surface active (p. 7, lines 4-6). A preferred polymerizable surfactant is the monomer characterized by formula (I) of claim 2.

Claims 3, 4, 7 and 8 are directed to an aqueous polymer dispersion of the monomer mixture of claims 1, 2 and 31.

As discussed in Section II, above, the claimed copolymer/dispersion provides an improvement in anti-sticking properties even in the absence of an antisticking agent. Moreover, the invention expressly teaches against the inclusion of crosslinking agents and the claimed copolymer/dispersion is not crosslinked.

To achieve crosslinking of the aqueous copolymer dispersion and cohesion of the copolymers, Reinecke requires that the crosslinkable copolymer be made with reactive monomers. The activated halogen compound (c) and the  $\alpha,\beta$ -ethylenically unsaturated carboxylic acids (d) are examples of such reactive monomers. Each of reactive monomers (c) and (d) must be present in an amount 0.1-10% by weight.

Applicants submit that the inclusion of reactive components (c) and (d) of Reinecke would offset the chemical interaction among the monomers of the claimed invention with a reasonable expectation that the antisticking properties of the resulting copolymer/dispersion would be different from those which are observed with the claimed invention. Accordingly, by definition, amended claims 1, 2 and 31 exclude the reactive monomers (c) and (d) and other unspecified ingredients that would affect the basic and novel characteristics of the claimed copolymer.

Furthermore, Reinecke discloses that the aqueous dispersion of the monomer mixture (a)-(c) is crosslinked in the presence of alkalics. In contrast, the claimed invention teaches against

USSN 10/511,115  
Atty. Docket No. 1103326-0781  
Page 13 of 17

the inclusion of crosslinking agents and the claimed copolymer is not crosslinked. This is evident in the disparity in uses/applications between the claimed invention which is used as the component of a pharmaceutical coating film and the cross-linked copolymer of Reinecke which is used as a press-sensitive adhesive of high heat stability.

Anticipation requires identity of invention. The transition "consisting essentially of" excludes reactive monomers (c) and (d) which are required by Reinecke. For all of the foregoing reasons, there is no identity of invention as between Reinecke and claims 1-4, 7, 8 and 31. Accordingly, Reinecke fails to anticipate. Withdrawal of the §102 rejection is requested.

c. claim 9:  
pharmaceutical coating film

Claim 9 is directed to the film applied to and coating the surface of a pharmaceutical dosage form. Anticipation results if each and every feature of the claimed invention appears in a single reference. Reinecke does not disclose, literally or inherently, a film applied to and coating the surface of a pharmaceutical dosage form. Furthermore, claim 9 is directly dependent on claims 3-8. Therefore, claim 9 is also not anticipated by Reinecke for the same reasons that claims 3-8 are not anticipated by Reinecke as discussed in the preceding Sections IV(a) and (b), above. Withdrawal of the §102 rejection is requested.

d. claims 23 and 24:  
process for preparing the copolymer

Claims 23 and 24 are directed to a process for preparing the copolymer of claim 2. For the reasons given in Section IV(b), reactive monomers such as components (c) and (d) which are required by Reinecke to achieve crosslinking and cohesion of the copolymers are excluded from the claimed invention. It is reasonable to expect that the inclusion and co-polymerization of such reactive monomers with the recited monomers of the claimed invention would result in a different copolymer and affect the antisticking properties which are observed with the claimed invention. Therefore, claims 23 and 24 are not anticipated by Reinecke for the same reasons that claim 2 is not anticipated by Reinecke. Withdrawal of the §102 rejection is requested.

**V. Claim Rejections – 35 U.S.C. §103**

- a. claims 10-14 and 25

pharmaceutical formulation/process for preparing the formulation

Claims 10-14 and 15 are rejected under 35 U.S.C. §103(a) as being unpatentable over Reinecke in view of US 5,055,306 to Barry et al. ("Barry").

Claims 10-14 are directed to a pharmaceutical formulation comprising a pharmaceutical core comprising a pharmacologically active ingredient and the film coating comprising the film according of claim 9. Claim 25 is directed to a process of preparing the claimed formulation.

Barry is directed to a sustained-release formulation in the form of effervescent or water-dispersible tablets (col. 1, lines 5-7). In the paragraph bridging columns 4 and 5, it is stated that "sustained-release formulations of pharmacologically active substances have not previously been presented, or at least successfully presented, in the form or effervescent or water-dispersible tablets". To solve this problem, Barry discloses a specific coating covering substantially the whole surface of a core containing granules of a pharmaceutically active and effervescent or water-dispersible ingredients. As disclosed at column 3, lines 48-53, the coating comprises the following:

- 100 parts of a ***water insoluble but water swellable*** acrylic polymer, and
- from 20 to 70 parts of a water soluble hydroxylated cellulose derivative.

The Examiner alleges that it would have been obvious at the time the claimed invention was made to replace the coating disclosed by Barry with one comprised of the acrylic ester copolymer disclosed by Reinecke to arrive at the claimed invention.

Applicants respectfully submit that the obviousness rejection based on the combination of Reinecke and Barry is improper. To establish a *prima facie* case of obviousness, it is necessary to show that the prior art at the time the claimed invention was made provided the requisite motivation or suggestion to modify a single reference or combine references to arrive at the claimed invention. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998) ("In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." (emphasis added))

USSN 10/511,115  
Atty. Docket No. 1103326-0781  
Page 15 of 17

Reinecke is concerned with the problem of preparing an acrylic ester copolymer dispersion capable of being crosslinked in the presence of alkalies to obtain a crosslinked copolymer that may be used as an adhesive. In contrast, Barry is concerned with the problem of preparing sustained-release formulations of pharmacologically active substances in the form of effervescent or water-dispersible tablets. Barry's solution is in the form of a specific coating containing a combination of a water soluble hydroxylated cellulose derivative and a water insoluble but water swellable acrylic polymer. There is no disclosure or suggestion that the acrylic ester copolymer disclosed by Reinecke is swellable.

In view of the different problems solved by Reinecke and Barry, the skilled person in the art of developing the claimed formulation would have no motivation to search for, consider and/or combine Reinecke with Barry. Furthermore, in the absence of any suggestion, and there is none, it is not reasonable to expect that the substitution of the specific film coating disclosed by Barry with the acrylic ester copolymer disclosed by Reinecke, as alleged by the Examiner, would solve Barry's problem of preparing sustained-release formulations of pharmacologically active substances in the form of effervescent or water-dispersible tablets.

For all of the foregoing reasons, a *prima facie* case of evidence has not been established. Withdrawal of the §103 rejection of claims 10-14 and 25 is requested.

b. claims 15 and 16  
pharmaceutical formulation

Claims 15 and 16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Reinecke in combination with Barry, US 5,939,578 to Chen ("Chen") and US 4,957,745 to Jonsson et al. ("Jonsson").

Claims 15 and 16 are directed to the active ingredients of the claimed pharmaceutical formulation. The Examiner notes that Barry does not teach the beta-blocking adrenergic agent to be metoprolol salts such as tartrate, succinate, fumarate or benzoate salt. For this purpose, the Examiner relies on Chen and Jonsson.

Applicants submit that neither Chen nor Jonsson overcomes the failure of the combination of Reinecke and Barry to render the claimed formulation obvious for the reasons given in the preceding Section V(a). In view of the different problems solved by Reinecke (crosslinkable aqueous copolymer dispersions to prepare adhesives) and Barry (sustained-release

USSN 10/511,115  
Atty. Docket No. 1103326-0781  
Page 16 of 17

formulations in the form of effervescent or water-dispersible tablets), the skilled person in the art of developing the claimed formulation would have no motivation to search for, consider and/or combine Reinecke with Barry, Chen and/or Jonsson.

For all of the foregoing reasons, a *prima facie* case of evidence has not been established. Withdrawal of the §103 rejection of claims 15 and 16 is requested.

c. claims 27-30 and 32  
copolymer

Claims 27-30 and 32 are rejected under 35 U.S.C. §103(a) as being unpatentable over Reinecke in combination with US 6,646,046 to Contrada et al. ("Contrada") as further evidenced by GB 1 141 165 ("Zellstoffwerke").

Each of claims 27-30 and 32 is directly dependent on claim 2. With respect to the limitations of dependent claims 27-30 and 32, the Examiner acknowledges that Reinecke does not teach the repeating units in component (e), i.e., Formula II, and an alkoxy group with C1-20 for the terminal group. For this purpose, the Examiner relies on Contrada and Zellstoffwerke.

Contrada is directed to an aqueous pressure-sensitive adhesive composition. The Examiner relies specifically on the disclosure of the monomer M<sub>1</sub> disclosed at column 3, lines 38-54. Zellstoffwerke is directed to the manufacture of acrylic films. The Examiner relies on the disclosure by Zellstoffwerke of an ester of a polyethoxylated product containing at least one acrylic or methacrylic ester group. The Examiner alleges that the cited compounds of Contrada and Zellstoffwerke, respectively, encompass component (e) of Reinecke.

Applicants respectfully disagree with the Examiner's analysis of the prior art and rationale in support of the obviousness rejection. The rejected claims are dependent on claim 2 and therefore include the limitations of that claim. As discussed in Section IV(b), above, the claimed copolymer excludes the reactive monomers (c) and (d) required by Reinecke and other unspecified ingredients that would affect the basic and novel characteristics of the claimed copolymer. Neither Contrada nor Zellstoffwerke changes that exclusion.

Therefore, relying on a Section IV(b), above, Applicants submit that a *prima facie* case of obviousness has not been established. Withdrawal of the §103 rejection of claims 27-30 and 32 is requested.

FROM W&C LLP 19TH FL.

(THU) 8.10'06 12:12/ST. 12:07/NO. 4260454830 P 17

USSN 10/511,115  
Atty. Docket No. 1103326-0781  
Page 17 of 17

**VI. Conclusion**

In view of the claim amendments and remarks herein, the application is in condition for allowance.

Authorization is hereby given to charge any fee due in connection with this communication to Deposit Account No. 23-1703.

Dated: 10 August 2006

Respectfully submitted,

John M. Genova

John M. Genova  
Reg. No. 32,224

White & Case LLP  
Customer No. 07470  
Direct Line: (212) 819-8832